

What is claimed is:

Sub 4

1. An optical head comprising:

(a) a light source for emitting a light beam to be irradiated  
5 to an optical recording medium as an incident light beam;

(b) a hologram element for receiving a reflected light beam  
generated by reflection of said incident light beam on said medium  
to generate at least two diffracted light beams for focusing error  
detection and at least two diffracted light beams for tracking error  
10 detection; and

(c) an optical detector for detecting the at lease two  
diffracted light beams for focusing error detection and the at least  
two diffracted light beams for tracking error detection;

said detector including a first receiving surface for  
receiving the at least two diffracted light beams for focusing error  
detection and a second detection surface for receiving the at least  
two diffracted light beams for tracking error detection;

each of said first and second receiving surfaces being  
divided into receiving regions;

20 the at least two diffracted light beams for focusing error  
detection being received at said receiving regions of said first  
receiving surface;

the at least two diffracted light beams for tracking error  
detection being received at said receiving regions of said second

receiving surface.

2. The head according to claim 1, wherein said hologram element has a property of selectively exhibiting a diffraction grating function according to a polarization direction of said reflected light beam.

3. The head according to claim 1, wherein said hologram element has diffraction gratings divided by at least one division line, and said gratings have different grating patterns;

and wherein the at least two diffracted light beams for focusing error detection and the at least two diffracted light beams for tracking error detection are generated by said gratings of said element.

4. The head according to claim 1, wherein said hologram element has a first diffraction grating on a surface of said element and a second diffraction grating on an opposite surface thereof.

5. The head according to claim 1, wherein at least said light source and said optical detector are located in a package having a positioning mechanism;

and wherein said package is mounted on a base using said positioning mechanism.

6. The head according to claim 5, wherein said base has a hole into which said package is inserted;

and wherein an inner wall of said hole is substantially  
5 equal in shape and size to an outer wall of said package;

and wherein said inner wall of said hole has an engaging part and said outer wall of said package has a corresponding engaging part;

and wherein said package is positioned at a desired location  
10 with respect to said base by engagement between said engaging parts of said hole and said package.

7. The head according to claim 6, further comprising a heat dissipation member for dissipate heat generated by said light  
15 source.

8. An optical head comprising:

(a) a light source for emitting a light beam to be irradiated to an optical recording medium as an incident light beam;

20 (b) a hologram element including gratings divided by at least one division line, said gratings having different patterns;

said element receiving a reflected light beam generated by reflection of said incident light beam on said medium, thereby generating at least two diffracted light beams for focusing error

detection and at least two diffracted light beams for tracking error detection by using said gratings;

(c) an optical detector for detecting the at lease two diffracted light beams for focusing error detection and the at least  
5 two diffracted light beams for tracking error detection;

said detector including a first receiving surface for receiving the at least two diffracted light beams for focusing error detection and a second detection surface for receiving the at least two diffracted light beams for tracking error detection;

10 each of said first and second receiving surfaces being divided into receiving regions;

the at least two diffracted light beams for focusing error detection being received at said receiving regions of said first receiving surface;

15 the at least two diffracted light beams for tracking error detection being received at said receiving regions of said second receiving surface.

9. The head according to claim 8, wherein at least said light source  
20 and said optical detector are located in a plastic package having a positioning mechanism;

and wherein said package is mounted on a base using said positioning mechanism.

10. The head according to claim 9, wherein said base has a hole into which said package is inserted;

and wherein an inner wall of said hole is substantially equal in shape and size to an outer wall of said package;

5 and wherein said inner wall of said hole has an engaging part and said outer wall of said package has a corresponding engaging part;

and wherein said package is positioned at a desired location with respect to said base by engagement between said engaging parts of said hole and said package.

11. The head according to claim 10, further comprising a heat dissipation member for dissipate heat generated by said light source.

12. An optical head comprising:

(a) a light source for emitting a light beam to be irradiated to an optical recording medium as an incident light beam;

(b) a hologram element including a first diffraction grating on a surface of said element and a second diffraction grating on an opposite surface thereof, said first and second gratings having different patterns;

said element receiving a reflected light beam generated by reflection of said incident light beam on said medium, thereby

generating at least two diffracted light beams for focusing error detection and at least two diffracted light beams for tracking error detection by using said first and second gratings;

(c) an optical detector for detecting the at lease two  
5 diffracted light beams for focusing error detection and the at least two diffracted light beams for tracking error detection;

said detector including a first receiving surface for receiving the at least two diffracted light beams for focusing error detection and a second detection surface for receiving the at least  
10 two diffracted light beams for tracking error detection;

each of said first and second receiving surfaces being divided into receiving regions;

the at least two diffracted light beams for focusing error detection being received at said receiving regions of said first receiving surface;  
15

the at least two diffracted light beams for tracking error detection being received at said receiving regions of said second receiving surface.

20 13. The head according to claim 12, wherein at least said light source and said optical detector are located in a plastic package having a positioning mechanism;

and wherein said package is mounted on a base using said positioning mechanism.

14. The head according to claim 12, wherein said base has a hole into which said package is inserted;

and wherein an inner wall of said hole is substantially  
5 equal in shape and size to an outer wall of said package;

and wherein said inner wall of said hole has an engaging part and said outer wall of said package has a corresponding engaging part;

and wherein said package is positioned at a desired location  
10 with respect to said base by engagement between said engaging parts of said hole and said package.

15. The head according to claim 14, further comprising a heat dissipation member for dissipate heat generated by said light  
15 source.